Installation and Operating Instructions

Linear Fireplace Cassettes

XS 500
S 600
M 700
L 800
XL 900

Please note:
Any guarantee claims are no longer valid if the installation and operating instructions have been ignored.

-Subject to technical
modifications and errors-
(Version 09/2014)

SPARTHERM
Feuerungstechnik GmbH
Maschweg 38
D - 49324 Melle
Germany

SPARTHERM ®
Feuerungstechnik

Foreword / Quality Philosophy

You have chosen to purchase a Spartherm fireplace cassette – thank you for the trust you have placed in us.
In a world characterised by an abundance of choice and mass production, our company name is associated with the principles of our owner Mr. Gerhard Manfred:
“High technical quality combined with contemporary design and service for the satisfaction of our customers and to achieve their recommendation. In combination with our specialist trade partners, we offer you first-class products that touch people on an emotional level, creating feelings of security and comfort. To ensure this is achieved, we recommend that you carefully read these operating instructions so that you can become quickly and comprehensively acquainted with your fireplace cassette.
Besides information on using the cassette, these instructions also include important care and operating information for your safety and to maintain the value of your fireplace cassette, as well as providing you with valuable tips and assistance. In addition, we will demonstrate how you can operate your fireplace cassette in an environmentally friendly way.

If you have any further questions, please contact your specialist dealer.

Hoping you enjoy a beautiful fire at all times!
Your Spartherm Team
G.M. Rokossa

Contents Page

General information 6

1. Certified quality / definition 7

1.1 The Clean Air Act 1993 and Smoke Control Areas 7

1.1. Scope of delivery 8
1.2. Transport damage 8

2. Installation instructions 9

2.1. Adjusting the feet of linear fireplace cassettes 9

2.2 Fundamental requirements for the installation/use of an open fireplace 10

2.2.1 Installation location 10

2.2.2 Multiple installations 11

2.3 Technical data 12

2.4 Combustion air supply 18
2.5 Combustion air pipes 18
2.6 Flow restrictors 18

2.7 General requirements for the use of fireplace cassettes in existing fireplaces 18

2.8 Preparation of the existing fireplace 19

2.9 Fire protection 20

2.9.1 Flooring 20
2.9.2 Thermal radiation field 21
2.10 Load-bearing components made of concrete and reinforced concrete 21
2.11 Special safety measures for protecting adjacent combustible construction components from fire (when retrofitting the cassette into a fireplace) 21
2.12 Wooden beams 22
2.13 Heat insulation material 22
2.13.1 Heat insulation thicknesses (rock wool according to AGI Q 132) 22
2.13.2 Masonry work for walls needing protection 23
2.13.3 Expansion joint between the casing and the fireplace cassette 23
2.14 Example installation 24

2.15 Installation of the fireplace cassette into an existing fireplace 25

2.16 Installing the frame 26

2.17 Aligning the fireplace cassette 27

2.18 Installing or dismantling the firebox into/from the convection air jacket 27

2.19 Installation of the convection air sockets 28

2.20 Connecting a hot air blower 29

2.21 Dismantling and installing the firebox door 31

2.22 Installing the exhaust gas flue at rear / bottom 33

2.23 Firebox lining 34

3. Operating instructions 37

3.1 General instructions about operation 37
3.2 Type plate 38

3.3 Burning wood 38

3.3.1 First use/commissioning 38
3.3.2 Combustion air regulation 39
3.4 Lighting a fire / burning wood 40
3.4.1 Adding wood / end of the fire 41
3.4.2 Volume of wood to add per hour 42
3.5 Heating output regulation 42
3.6 Room heating capacity 43
3.7 Heating in the transitional period / unfavourable weather conditions 43

3.8 Fuel 44

3.9 CO_2 neutrality 45
3.9.1 Storing wood 45
3.10 Your contribution to environmental protection 46

3.11 Cleaning and care 46

3.12 Chimney fire 47
3.13 Maintenance 48

4. Troubleshooting 48

4.1 Glass experiencing heavy, quick and irregular sooting 48
4.2 Fire is difficult to light 49
4.3 Smoke leakage when adding wood to the fire 49
4.4 Fire burns too quickly / wood consumption is too high 49

5. General guarantee conditions **50**
5.1. General information 50
5.2. Guarantee period 50
5.3. Proof of purchase 50
5.4. Guarantee exclusions 50
5.5. Correction of defects - repairs 51
5.6. Liability 51
5.7. Note 51
6. Commissioning report **52**

General information

Spartherm fireplace cassettes are high quality German products. They are easy to install because they are pre-assembled. Please observe these instructions and discuss them together with the new owner of the fireplace cassette.

You should talk to the responsible heating inspector/chimney sweep in your district before installing your fireplace cassette. The inspector will advise you about the relevant building regulations and the suitability of your chimney, as well as carrying out the approval process for your fireplace cassette. The inspection of your chimney will be conducted in accordance with DIN EN 13384 using the three key values provided in these instructions (see “Technical data”).

Small children, old or frail people: As with all heating appliances, it is a good idea to install safety devices for these groups of people because the glass panel and also the outer casing of the fireplace cassette can become very hot! ➔ **Risk of burning!** ← **Never** allow these groups of people to touch or use a fireplace cassette without supervision when a fire is lit or has just been extinguished! In general, the fireplace cassette should not be operated without supervision for long periods of time!

National and European standards, relevant country-specific and local regulations and guidelines, as well as the relevant fire regulations in the German state, are to be observed when installing and operating your fireplace cassette and when connecting it to the chimney.

1. Certified quality / definition

Our fireplace cassettes are tested according to DIN 13229.
This family of cassettes can be installed in four standard sizes (500-900) into, for example, existing open fireplaces.
However, it is also possible to install the fireplace cassette in a similar way to a fireplace insert if the appropriate tests have been completed. This includes taking into account the relevant sizes of the air supply and recirculation openings.
The fireplace cassettes have a self-closing firebox door so that the door is only opened for operating the fireplace (e.g. cleaning the firebox or for putting more fuel on the fire). It is not permitted to tamper with the closing mechanism for safety reasons and should this occur it will invalidate the guarantee and the approval to use the fireplace cassette. The guarantee and the approval to use the fireplace cassette are also invalidated if the cassette is technically modified in any other area by the customer.

1.1 The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an "unauthorised fuel" for use within a smoke control area unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and that appliances used to burn solid fuel in those areas (other than "authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.
Further information on the requirements of the Clean Air Act can be found here : http://smokecontrol.defra.gov.uk/

Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements". Spartherm appliances that have been recommended as suitable for use in smoke control areas are identified by a suffix P3 in the model name. These models are recommended for use in smoke control areas when burning solely dry wood logs. Wood briquettes must not be burnt with these appliances in smoke control areas.

1.1. Scope of delivery

A fireplace cassette with the following characteristics:

- Firebox made of refractory concrete/vermiculite
- Primary and secondary airflow systems
- Self-closing firebox door with a high temperature-resistant ceramic glass panel
- Heat-resistant gloves
- Type plate (see 3.2 for attachment)

1.2. Transport damage

Please **immediately** check the goods on delivery (**visual inspection**). Note any damage that may have occurred on your delivery note and then please inform your fireplace fitter. Protect the visible parts of the cassette from soiling or damage during installation.

Only **approved transport aids** with **sufficient load-bearing capacity** may be used for transporting your fireplace cassette.

The following points must be observed for safe and uncomplicated transport:

- The fireplace cassette must generally only be transported either in an **upright position** or **slightly inclined** onto its rear!
- If a hand truck is being used as a transport aid, this may only be positioned at the rear of the cassette.

2. Installation instructions

Your fireplace cassette may only be assembled and installed by a specialist fireplace fitter. You should talk to the responsible heating inspector/chimney sweep in your district before setting up and installing the fireplace cassette in order to clarify the suitability of your chimney and installation location, as well as for any other possible issues.

2.1. Adjusting the feet of linear fireplace cassettes

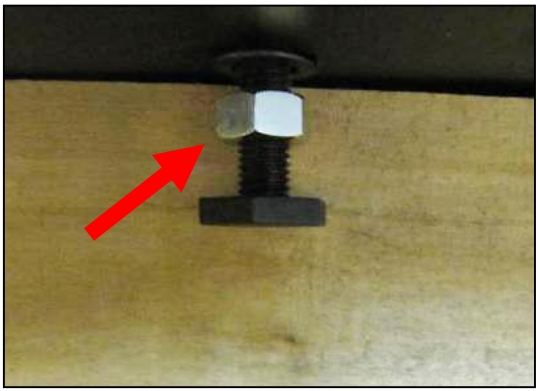


Fig.a

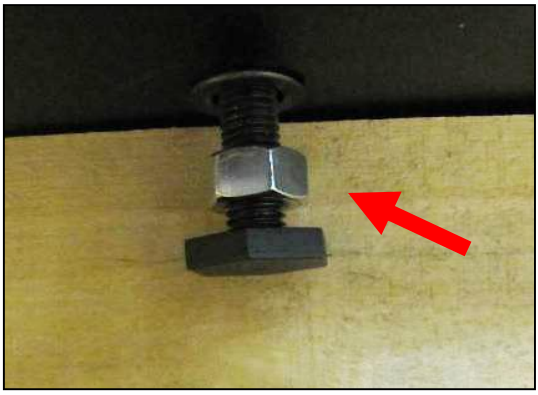


Fig.b

Your fireplace cassette is delivered with the feet secured by a nut (Fig. a). **Undo the nut before installation (Fig. b)**. You will need a size 19 spanner. The feet can then be adjusted from the inside during installation of the fireplace cassette.

2.2 Fundamental requirements for the installation/use of an open fireplace

All necessary national and European standards, as well as local regulations in the German state (DIN, DIN EN, state building regulations, fire regulations etc.) must be observed and applied for the installation, connection and operation of the fireplace cassette. The following is a list of the relevant regulations (without any claim to completeness).

FeuVo/LBO/VKF:	Fire regulations of the relevant federal state / state building regulations or fire protection regulations of the VKF (Switzerland)
1st BlmSchV:	First ordinance for implementing the Federal Immission Control Act
TROL:	Specialist regulations issued by the Tile Stove and Air Heating System Association (ZVSHK)
DIN 1298 / EN 1856:	Connecting flue pipes for heat generating systems
DIN EN 13229:	Inset appliances including open fires using solid fuels
DIN 18896;	Fireplaces using solid fuels, technical specifications for installation and use
DIN EN 13384:	Exhaust gas systems calculation method
DIN 18160-1/2:	Exhaust gas systems / residential chimneys

Fireplaces may only be installed in rooms and locations where no danger results from their position, structural conditions and type of use. The surface area of the installation room must be designed in such a way and be large enough to ensure that the fireplace can be properly operated in line with its intended purpose.
Fireplace cassettes are fireplaces that are dependent on room air. This means that problems can arise when a ventilation system is operated at the same time (e.g. cooker extractor hood, bathroom fan, etc.). In these cases, suitable measures (e.g. low pressure monitor) must be taken to ensure that safe operation is guaranteed.

2.2.1 Installation location

General requirements placed on installation sites for fireplaces and fireplace cassettes:
Fireplace cassettes may only be installed in rooms and locations where no danger results from their position, structural conditions and type of use. In particular, in the case of fireplace designs dependent on room air then

sufficient combustion air must flow through the installation space. The surface area of the installation room must be designed in such a way and be large enough to ensure that e.g. open fireplaces with cassettes can be properly operated.

There is no risk to the operation of fireplace cassettes when:

- The system has safety devices that independently and reliably prevent low pressure in the installation room.

or

- The total combustion airflow volume required for the fireplace cassettes and the airflow volume of the ventilation systems do not cause low pressure less than 0.04 mbar in the installation room used for the open fireplace and any combined rooms providing ventilation.

Fireplace cassettes may not be installed in:

- Stairwells, except in residential buildings with no more than two apartments.
- Hallways that are generally accessible
- Garages
- Rooms in which highly flammable or explosive materials or mixtures are processed, stored or manufactured in such volumes that danger may result from them exploding or becoming inflamed. Fireplace cassettes may not be installed in rooms or apartments that are vented using ventilation systems or hot air heating systems with the aid of fans, unless the safe operation of the fireplace cassette is guaranteed.

2.2.2 Multiple installations

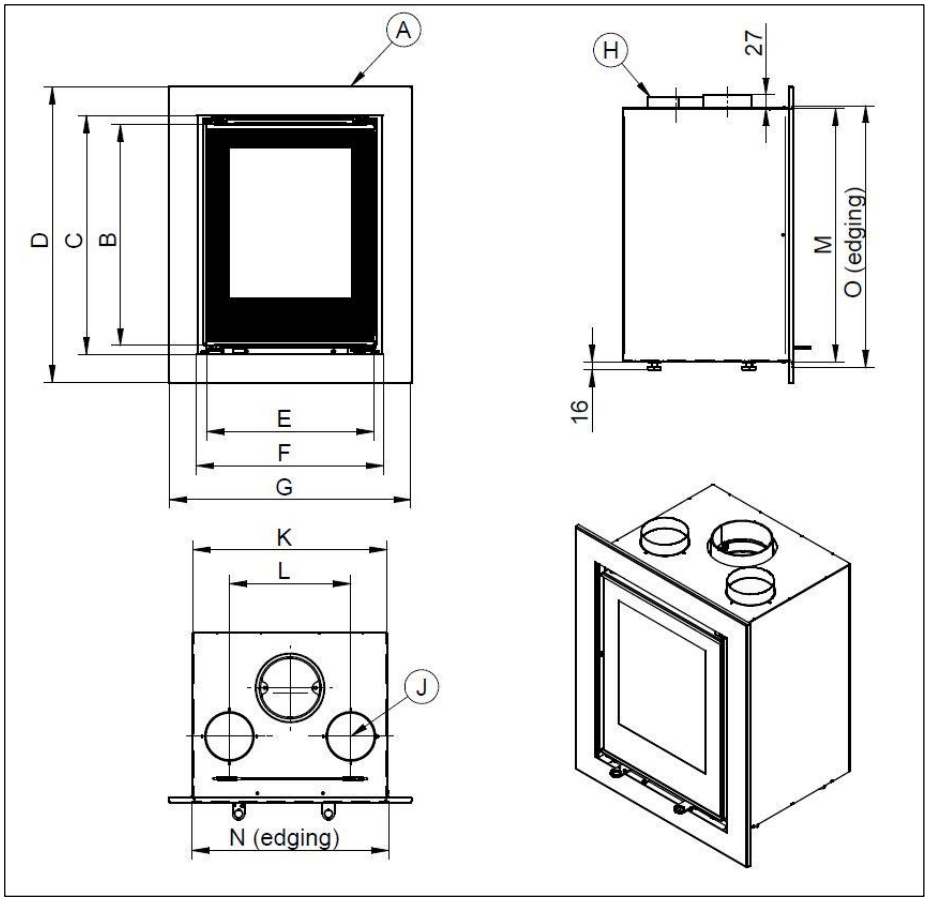
It is possible to have multiple installations connected to a chimney in accordance with DIN 18160 because the fireplace cassettes are fitted with a self-closing firebox door (A1). All of the fireplaces connected to a chimney must also have been approved for multiple installations!

2.3 Technical data & dimension sheets

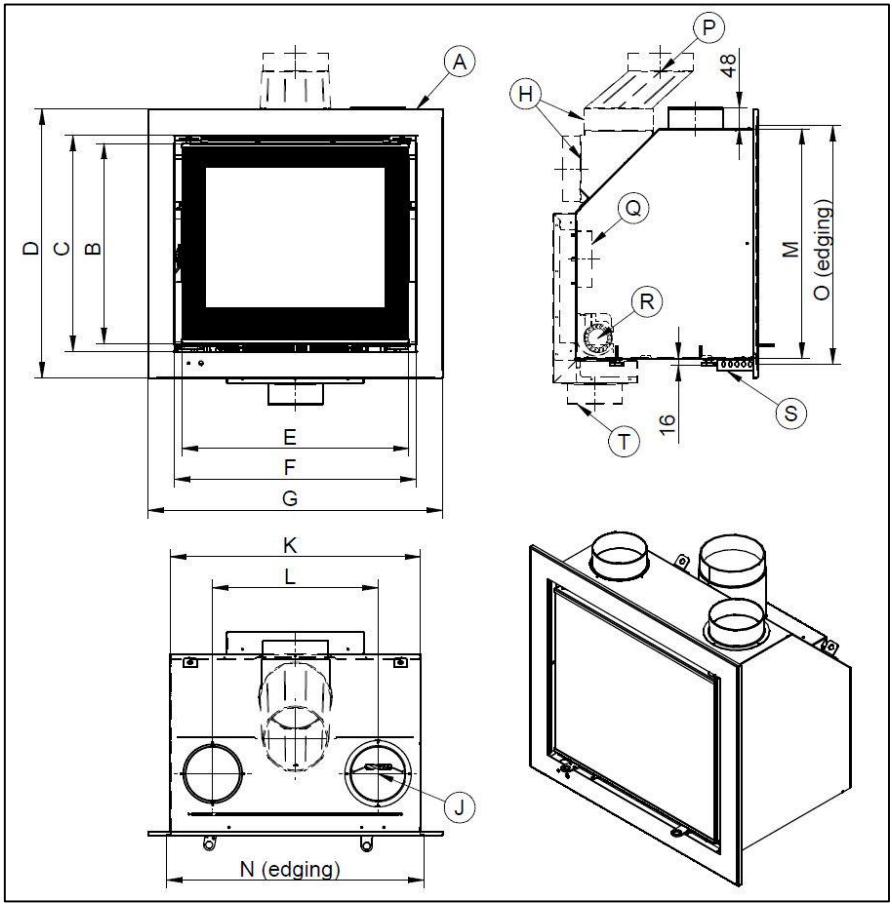
The following information has been taken from the testing report and corresponds to the testing conditions!

Fireplace cassette		**500**	**600**	**700**	**800**	**900**
Technical data:	*Unit*	**E4**	**E5**	**E7**	**E10**	**E14**
Type of fuel:	-	Firewood				
Room thermal output:	kW	4,6	4,9	6,9	9,9	14,0
Wood feed quantity:	kg/h	~ 1,4	~ 1,5	~ 2,1	~ 3,0	~ 4,2
Thermal output:	kW	4,5 – 6,0	4,2 – 6,4	4,8 – 9	6,9 – 12,9	9,8 – 18,2
Efficiency:	%*	> 80				
CO^2 emissions at 13% O^2:	mg/Nm³	< 1250				
Dust emissions:	mg/Nm³	< 40				
Exhaust gas temperature at sockets:	°C	252	335	370	340	360
Manometric pressure:	Pa	12				
Exhaust gas mass flow:	g/s	3,8	4,5	5,0	9,0	12,0
Combustion air requirement	m³/h	12,6	15,5	16,6	-	40,3
Weight depending on design	kg	50	80	95	110	130
Power supply (only with hot air blower)		-	*230V 50HZ AC*			
Requirements:						
1st level of BImSchV.		YES				
2nd level of BImSchV.		YES				
EN 13240		YES				
DIN Plus		YES				
Regensburg		YES				
München		YES				
Achen		YES				
15a (for Austria)		YES				
Clean Air Ordinance from 01.2011 (for Switzerland)		YES				

*The values given represent the average recorded from multiple fires. These values were recorded under test conditions without the hot air blower being switched on.

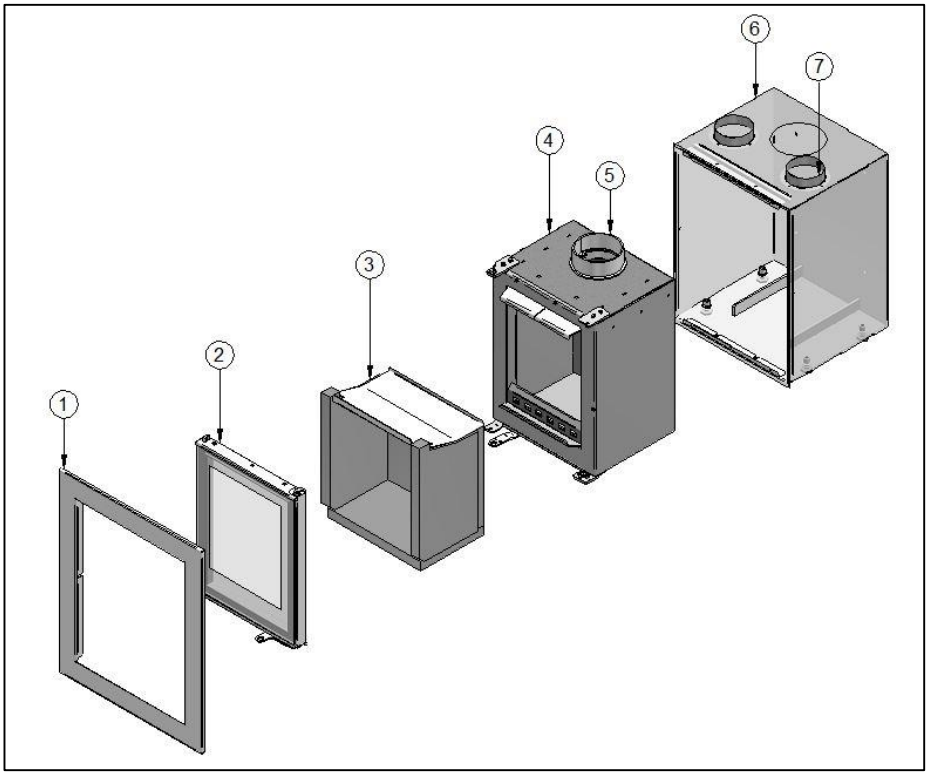


linear cassette XS 500



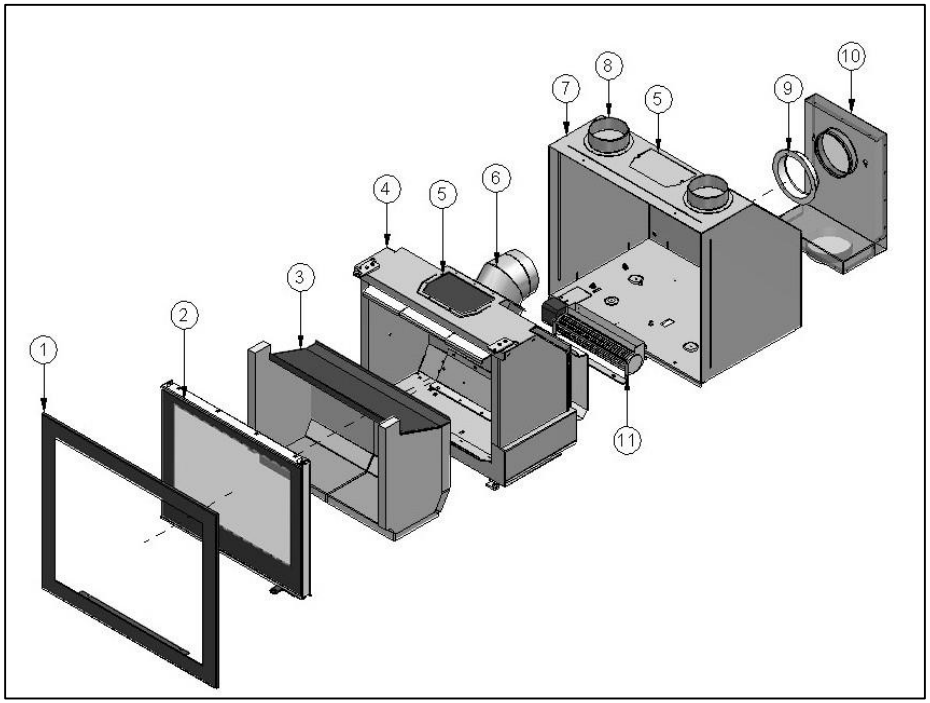
linear cassette 600 – 900 (S,M,L,XL)

dimensions linear cassettes	Linear XS 500 (mm)	Linear S 600 (mm)	Linear M 700 (mm)	Linear L 800 (mm)	Linear XL 900 (mm)
A	aperture standard: 45mm	aperture standard: 60mm			
B	456	453	503	523	543
C	492	489	539	559	579
D	582	609	659	679	699
E	345	510	610	710	810
F	380	546	646	746	846
G	470	666	766	866	966
H	ø130	ø150	ø150	ø150	ø150
I	352	412	442	472	502
J	ø100	convection air openings: ø125			
K	400	566	666	766	866
L	250	374	434	534	634
M	523	520	570	590	610
N	405	582	685	782	882
O	541	540	590	610	630
P	-	optional exhaust floor sheet*			
Q	-	optional combustion air spigot behind *			
R	-	optional fan*			
S	-	optional case for speed controller*			
T	-	Optional combustion air spigot below*			
***only for linear cassettes S, M, L und XL**					



linear cassette XS 500

1	Cassette frame 45, 60, 80mm
2	Firebox door with ceramic glass
3	Firebox lining
4	Firebox
5	Exhaust gas socket
6	Convection air jacket
7	Optional convection air sockets (Ø100mm)



linear cassettes 600 – 900 (S,M,L,XL)

1	Cassette frame 60, 80, 100mm
2	Firebox door with ceramic glass
3	Firebox lining
4	Firebox
5	Inspection/maintenance openings
6	Exhaust gas sockets, rotatable (vertically or horizontally)
7	Convection air jacket
8	Optional convection air sockets (Ø125mm)
9	Combustion air sockets, outlet to rear
10	Combustion air sockets, outlet below
11	Hot air blower (speed adjustable)

2.4 Combustion air supply

Fireplace cassettes may only be installed in rooms with at least one door to the outside or a window that can be opened or are directly or indirectly linked to a combustion air supply in other rooms. When the cassettes are installed in apartments or other functional units then only those rooms in the same apartment or functional unit may be counted as being linked for combustion air supply purposes.

2.5 Combustion air pipes

According to the state building regulations - which correspond to Article 37, Paragraph 2 of the Model Building Regulations - combustion air pipes in buildings with more than two full floors and those pipes that bridge fire walls must be constructed in such a way that fire and smoke cannot be transferred to other floors or fire compartments.

PLEASE NOTE:
The guidelines for fire protection requirements in ventilation systems (draft template) – version January 1984 – can be used to show how the previously named regulations can be fulfilled.

2.6 Flow restrictors

Flow restrictors may only be installed in exhaust gas sockets or in flue pipes. Flow restrictors must be easy to operate. They must have openings in the form of circular sections, which have a continuous area not less than 3% of the cross-sectional area, and be at least 20 cm² in size. The setting of the flow restrictor must be identifiable by the position of the operating handle.

2.7 General requirements for the use of fireplace cassettes in existing fireplaces

The fireplace cassettes are suitable, amongst other things, for retrofitting into existing fireplaces. Please observe the following installation instructions before installing the fireplace cassette (read the instructions before starting the installation of the fireplace cassette and then observe the instructions during installation):

- Please inform the responsible heating inspector/chimney sweep in your district before installation.

- The existing open fireplace into which the fireplace cassette is to be installed must correspond to the guidelines for the construction of fireplaces and the regulations in DIN EN 13229.
- The fitter must satisfy themselves as to what extent the open fireplace corresponds to these requirements. If necessary, the fitter must carry out any required corrective work.
- It must be ensured that the flue pipes, exhaust gas collection chamber and chimney are operationally safe and fireproof.
- Open fireplaces that are retrofitted with a fireplace cassette must have their own chimney.
- Open fireplaces may only be installed in rooms and locations where no danger results from their position and structural conditions.
- The installation room must have sufficient combustion air flow.
- The surface area of the installation room must be designed in such a way and be large enough to ensure that the fireplace can be properly operated.

FIREPLACE CASSETTES MUST BE INSTALLED BY SPECIALIST FITTERS OR SPECIALIST COMPANIES.

2.8 Preparation of the existing fireplace

- Approval must be obtained from the heating inspector/chimney sweep for your district before the cassette is installed.
- The chimney must be swept, examined and tested for leaks.
- Check whether the open fireplace is suitable for installing a fireplace cassette.
- Please note that the fireplace will be subjected to a higher level of stress after the cassette has been installed.
- The existing open fireplace will be reduced in size due to the installation of necessary thermal insulation coatings.

IMPORTANT: Take into account the following conditions when measuring up for the fireplace cassette.

- Shut-off dampers are to be completely opened in the exhaust gas system and locked in place so that they cannot close. If required, they are to be totally removed.
- The combustion air feed pipes that lead to the fireplace must not be closed. Ensure that there is sufficient combustion air (minimum 360 m^3 per hour and m^2 of the firebox opening).

- The fireplace cassette can be connected to a flexible exhaust gas flue, which is fed through the existing chimney flue. This flexible exhaust gas flue must correspond to DIN 1856-T2. (Manufacturer e.g.: Westaflex, type: MS-System or Haflex, type: 870s)

2.9 Fire protection

2.9.1 Flooring

In front of the openings to fireplaces with closed fireboxes, flooring made out of combustible materials must be protected by a covering of non-combustible materials. The covering must extend outwards at the front by a minimum of 500 mm and at the sides by at least 300 mm from the fireplace opening (see Fig. 2).

The non-combustible covering can be made out of ceramics (e.g. tiles, flagstones), natural stone or other mineral construction materials (e.g. marble, granite), metal with a thickness of at least 1mm or glass of corresponding strength. The covering must be secured against dislocation.

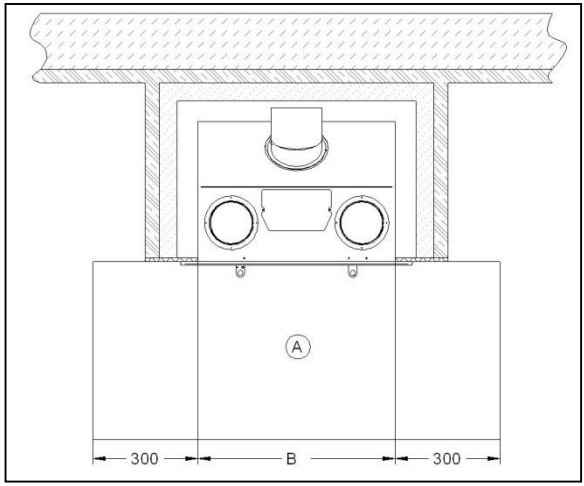


Fig. 2

	A	B
XS 500	Floor covering	466
S 600		566
M 700		666
L 800		766
XL 900		866

2.9.2 Thermal radiation field

No combustible construction components, furniture, curtains or decoration may be placed within a distance of 800 mm (see Fig. 3) of the firebox door in the thermal radiation field. This distance can be reduced to 400 mm when a ventilated radiation protection plate is installed between the fireplace and the combustible elements.

No combustible objects may be placed within a distance of 500 mm above the fireplace.

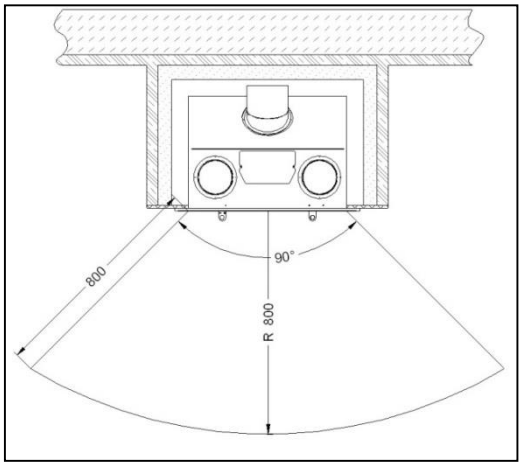


Fig. 3

2.10 Load-bearing components made of concrete and reinforced concrete

The fireplace cassette is to be installed in such a way that no load-bearing construction components made out of concrete or reinforced concrete are located at the side of the outlet points for the hot air within a distance of 500 mm at the front and up to a height of 50 mm above the outlet points for the convection air.

2.11 Special safety measures for protecting adjacent combustible construction components from fire (when retrofitting the cassette into a fireplace)

1) There must be a distance of at least 50 mm between built-in furniture and the fireplace casing.

2) In the case of construction elements that only border small areas of the cassette (wall, floor or ceiling coverings), it is recommended that you maintain a distance of 10 mm.

2.12 Wooden beams

Wooden beams must not be fitted in the fireplace's thermal radiation field. Any wooden beams above a fireplace must be completely ventilated on all sides by a minimum of 1 cm. Directly fixing them to thermal bridges is not allowed.

2.13 Heat insulation material

Heat insulation materials are only required when the adjacent construction components of the building / fireplace location etc. need to be protected against "high" temperatures. This is the case for combustible and load-bearing construction components.
The insulation thicknesses listed are based on the reference insulation material rock wool according to AGI-Q 132. Silicon-based insulation material can also be used with the relevant building approvals. These materials enable a significant reduction in the insulation thickness (e.g. Silka type: 250 KM)

2.13.1 Heat insulation thicknesses (rock wool according to AGI Q 132)

Fireplace cassette	Flooring	Installation wall	Ceiling	Adjacent wall
XS 500	0 mm	50 mm	50 mm	60 mm
S 600	0 mm	140 mm	100 mm	80 mm
M 700	0 mm	140 mm	100 mm	80 mm
L 800	0 mm	140 mm	100 mm	80 mm
XL 900	0 mm	140 mm	100 mm	80 mm

Air intake openings and air circulation openings must have the following dimensions. See table. At least 50% of all of the indicated openings must not be closable.

Fireplace cassette	XS 500	S 600	M 700	L 800	XL 900
Air circulation openings in cm²	220	240	400	640	880
Air intake openings in cm²	450	290	450	730	960

The distance between the fireplace cassette and the insulation must be 60 mm all the way around the fireplace cassette. Insofar as the adjacent construction components are not combustible or load-bearing then the distance can be reduced to 10 mm. The heat insulation thicknesses are valid for hot air systems.

2.13.2 Masonry work for walls needing protection

- When installing the open fireplace on walls needing protection then masonry work is required. The masonry work must project at least 200 mm above the flue pipes.
- The masonry work (100 mm) can be dispensed with when the building's walls are:
  - At least 115 mm thick
  - Made of non-combustible construction components
  - Not made of load-bearing concrete or reinforced concrete
- The masonry work can be completed in a conventional way e.g. using bricks or can also be constructed out of so-called "thermal insulation panels" so that the overall construction depth - consisting of masonry work and thermal insulation - can be significantly reduced. Alternatively, the masonry work and the insulation can be completed using suitable insulation materials, see 2.12 /.1. This will enable the overall thickness to be reduced significantly.

2.13.3 Expansion joint between the casing and the fireplace cassette

There must be no direct connection between the fireplace cassette and the casing. An expansion joint is to be fitted that should be connected using e.g. a sealing strip. Please note that there must be a minimum distance of 6 mm between the door frame and the fireplace apron to enable the firebox door to be dismantled if required.

2.14 Example installation

A	Fireplace cassette
B	Insulation (see 2.12.1)
C	Masonry work (see 2.12.2)
D	Wall made of combustible materials/components or load-bearing walls
E	Convection air pipe E1 = 10mm (distance if an adjacent construction component has no requirements) E2 = 60mm (distance to combustible construction materials)
F	Ceiling made of combustible construction materials or combustible construction components
G	Casing
H	Flooring made out of non-combustible construction materials

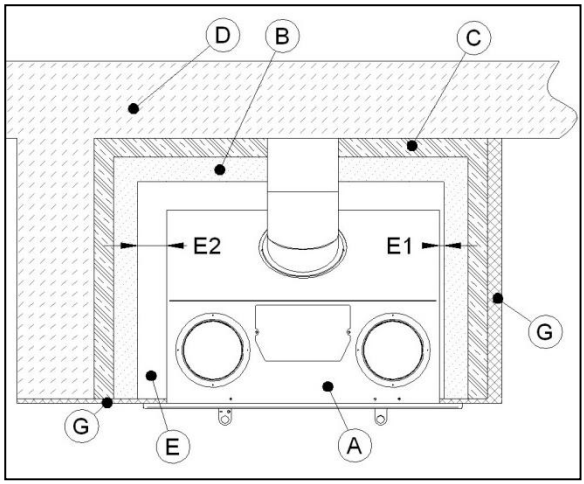


Fig. 4

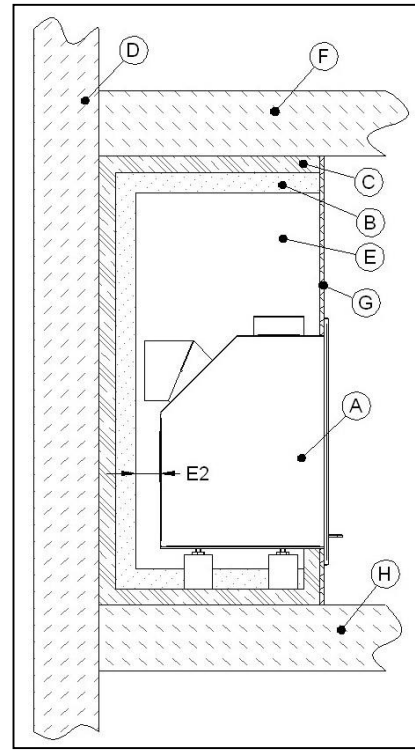


Fig. 5

2.15 Installation of the fireplace cassette into an existing fireplace

- Clean the firebox in the existing open fireplace thoroughly.
- Installation measures that bring about any restriction to the open fireplace and reduce safety are not permitted.
- Check whether the flooring of the existing fireplace is level. Slight unevenness can be balanced out later via the adjustable feet using an Allen key.
- The prescribed minimum thermal insulation for the whole fireplace - calculated according to DIN EN 13229 - must be adhered to if the existing open fireplace was not expertly constructed.
- In order to prevent fires and deflagration, it is important to ensure that there are no dangerous deposits in the exhaust gas collection chamber. These critical areas must be constructed in such a way that soot particles and flying ash can fall back into the firebox. This can be achieved using deflectors or through corresponding lining with fireclay or refractory concrete. Access is made possible through the cleaning openings.
- Install the exhaust gas flue system in the existing chimney. This must be a flexible system according to DIN EN 1856-T2 but it may vary according to the individual country.

Attention: The fireplace cassette has not yet been fitted at this stage!

The required process steps for connecting the flexible exhaust gas flue system to the exhaust gas socket on the fireplace cassette are listed here:

- Dismantle the deflector plate (also see 2.22) by firstly removing both of the side blocks of the firebox lining.
- Now remove the exhaust gas socket from the fireplace cassette and connect this socket to the flexible exhaust gas flue pipe inside the open fireplace. The linear measurement of the flexible exhaust gas pipe should be the actual length required so that the flexible pipe cannot be pushed into any gaps.
- Then insert the complete fireplace cassette into the open fireplace and reach through the open exhaust gas connection on the cassette into the fireplace. Pull the exhaust gas socket onto the rear wall of the cassette and fix it in place with two screws and nuts via the firebox.

- Replace the deflector plate and straighten up the fireplace cassette where necessary (see 2.16).
- After the fireplace cassette has been installed, the space between the outer casing of the cassette and the walls of the open fireplace must be tightly filled in.

- All remaining unfilled (non-airtight) areas - through which "false air" can enter - are to be sealed using a sealing agent (e.g. rock wool and, where required, a sheet metal cover).
- Any existing wooden beams in the open fireplace are to be protected using additional thermal protection (e.g. air deflector plate) when they are within the thermal radiation field or are located in the area of the cassette's thermal air convection field. This is particularly important when the fireplace cassette protrudes out of the existing open fireplace.
- The changes to the thermal radiation field when using the fireplace cassette in comparison to that of the open fireplace should be taken into account.

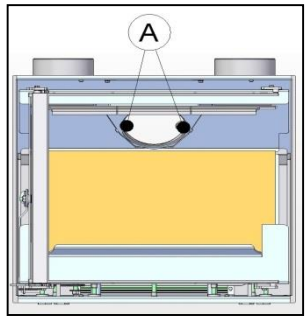


Fig. 6

A	Loosen the screws in the firebox

2.16 Installing the frame

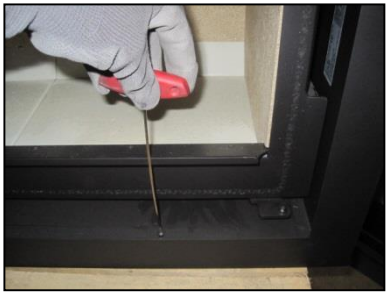
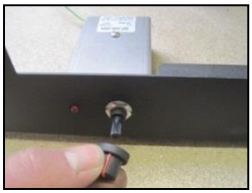


Fig. 7

In order to install / dismantle the cassette frame, the firebox door needs to be opened to access the four fastening screws for the frame. The screws must be turned approx 3-4 times to loosen them. The frame can then be removed in a forwards direction. Installation is carried out in the reverse order.

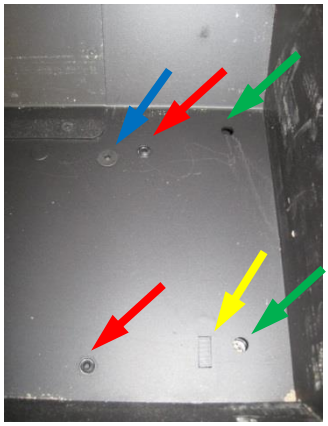
In cassette designs including a hot air blower, it is necessary to initially remove the rotary knob at the front and unscrew the nut (see Fig. **7**). The speed controller remains in position within the hole.



2.17 Aligning the fireplace cassette

In order to align the fireplace cassette, the four feet can be adjusted from the side, front or rear using a spanner to ensure that the frame / firebox are level.

If it is necessary to align the fireplace cassette at a later date then it is possible to gain access to the feet through the firebox itself. This involves dismantling the firebox lining (see 2.22) and setting the adjustment screws with a 6 mm Allen key.
(Not valid for linear cassette XS500)



1.) Green arrow: Height adjustment of the foot on the convection air jacket
2.) Red arrow: Height adjustment of the firebox in the convection air jacket
3.) Blue arrow: Locking the firebox in position in the convection air jacket (transport locking device). This must always be released when the firebox needs to be aligned
4.) Yellow arrow: Positioning rectangle

If new settings have been made then it is necessary to reinsert the floor insulation because this guarantees that the holes are insulated from the room's air.

2.18 Installing or dismantling the firebox into/from the convection air jacket

The firebox can be dismantled from the convection air jacket in its installed state. Reasons for this include e.g. the retrofitting of a hot air blower. However, the prerequisite for this is that the combustion air pipe is not fixed at the rear of the cassette or that it allows sufficient movement of the firebox in a forwards direction.

Process steps:

1. Dismantle the cassette frame (see 2.15)
2. Remove the firebox lining (see 2.22)
3. Loosen the firebox locking mechanism (blue arrow, see 2.16)

4. Turn the adjustment screws in the firebox (red arrow, see 2.16) until they are visible in the firebox.
5. Take the firebox door off its hinges (see 2.20)
6. Lift the firebox at the front using 1-2 persons and remove it in a forwards direction. The positioning rectangle (yellow arrow, see 2.16) must no longer be locked in the opening, only then is it possible to move the fireplace cassette!

PLEASE NOTE: The firebox must be lifted into the convection air jacket because the firebox's feet can otherwise cause scratches to the convection air jacket.

Installation is carried out in the reverse order!

2.19 Installation of the convection air sockets

Fig. 8a

In order to install the circulation pipes (convection air), initially break out the dummy covers and then screw on the two sockets as shown (see Fig. 8a) using the self-tapping screws provided. Alternatively, these screws can be screwed from the inside of the convection air jacket outwards. In order to redirect the airflow volume, the flaps on the flow control covers at the top front of the convection air jacket need to be pushed into the cut-out slots.

Fig. 8b

The flow control cover can be reduced in size at the predetermined breaking point to change the airflow volume in the pipe system.

Predetermined breaking point, pre-stressed

Bend when breaking =>	corresponds to approx. 50% airflow volume via the connected pipe system and approx. 50% in the installation room.
Without any changes =>	corresponds to approx 70 % airflow volume via the connected pipe system and approx. 30% in the installation room.

2.20 Connecting a hot air blower

Not valid for linear cassette XS 500!

If the fireplace cassette has been ordered with a hot air blower then you only need to connect the plug to a properly earthed electricity socket.
The following steps should be carried out for maintenance / inspection of the hot air blower:

1. Dismantle the cover (see 2.15)
2. Remove the firebox door (see 2.20)
3. Remove the firebox lining (see 2.22)
4. The blower is accessible after the inclined rear wall has been dismantled.

In order **to retrofit a hot air blower**, carry out the previously described steps numbered 1 to 3 and continue with steps 4b to 4g.

4b. Remove the firebox (see 2.17)

4c. Installing the hot air blower involves the following components:

- connection cable set, blower cable, speed regulator, cylindrical fan and cable gland

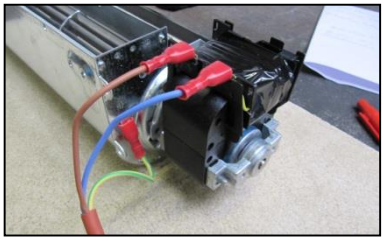
4d. Cut out the pre-cut section of the convection air jacket on the lower left side using a hand saw. The metal plate can then be broken out of the convection air jacket. The speed regulator will be positioned in this section at a later stage.

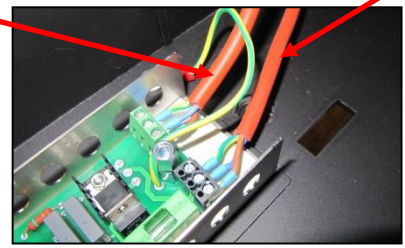
4e. Now assemble the blower onto the fixing bracket (see picture) and install it at the middle / bottom of the convection air jacket.

4f. Connect the cable wires to the terminals on the blower as shown and to the control box for the speed regulator.

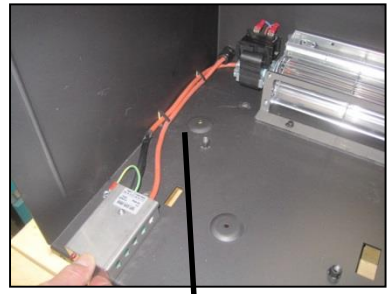
Blower connection cable

Mains supply



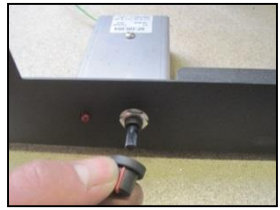


After the cables have been connected, check and ensure proper functionality before finishing the installation. The cables must be fixed using the holding flaps. The flaps can either by pressed in from the outside or levered out from the inside.
Once the cable has been pushed under the flaps, the flaps must then be pushed down lightly onto the cable.



PLEASE NOTE: Do not press on the flaps too hard because otherwise the cable could become damaged!

4g. Pull the rubber knob off the front of the control shaft and twist off the nut and ring washer. The control shaft is inserted through two holes in the frame when installing the frame. It may be necessary to order a new cassette frame if the existing one does not have any corresponding holes.



2.21 Dismantling and installing the firebox door

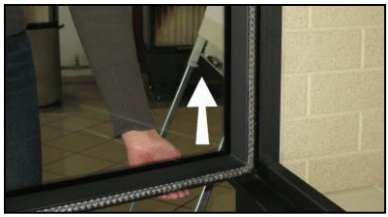
Please follow the following steps to dismantle / install the firebox door. Take care when carrying out these tasks as otherwise damage to the casing / door cannot be ruled out. We recommend protecting the casing / metal plates with an overlay.

Dismantling:

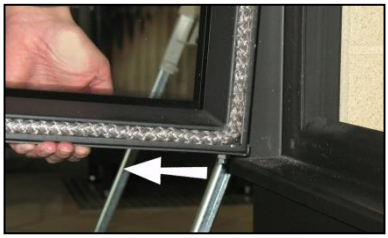
1. Use a screwdriver or a similar tool to remove the safety clasp on the stopper side (hinge side) of the door.

2. Swing the door open. Then tighten the Allen screw on the lower hinge with a 3 mm Allen key.

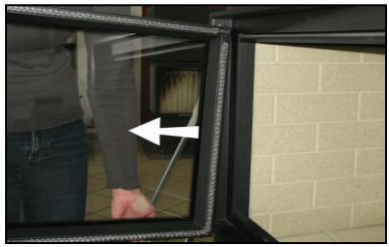
3. Take hold of the door at the bottom. Raise the door a little with a light lifting movement so that the lower pin of the hinge is exposed.



4. In this position, pull the door a little forward at the bottom.



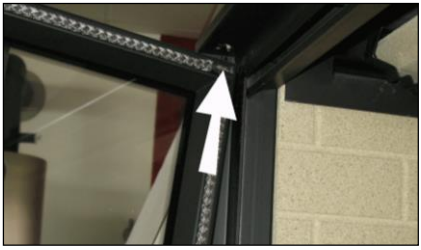
5. Now allow the door to drop down a little so that it comes away from the upper guidance pin and can be removed.

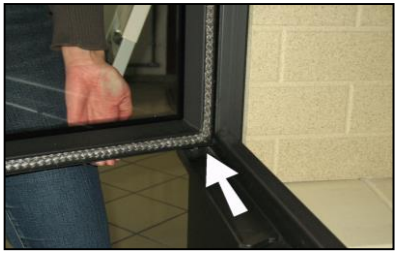


The door is now free and can be carefully placed to one side.

INSTALLATION: Installation is carried out in the reverse order:

1. Firstly guide the door in a slightly inclined position onto the fixture for the hinge side of the door. In the process, support the door from below so that the fireplace casing is not scratched.





2. Then swing the door inwards and set the lower pin into the lower fixture. To ensure the hexagonal socket can slide into the fixture, move the door a little (swivel the door).

3. Loosen the hexagonal socket on the lower hinge with a 3 mm Allen key.

4. Close the door and then push the safety clasp back onto the pin.

2.22 Installing the exhaust gas flue at rear / bottom

Not valid for linear cassette XS 500!

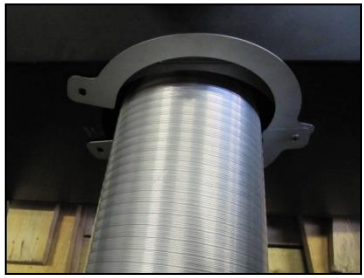
Exhaust gas connection at rear:

The connection for the exhaust gas flue in a horizontal direction at the rear is realised as described below:

1. Break off the dummy cover on the convection air jacket and the firebox at the rear of the appliance by twisting it frequently.

2. Connect the 125 mm or 150 mm exhaust air sockets with a binding clamp to the exhaust gas flue. Then screw the sockets to the rear wall of the firebox using three screws.

3. Place the rear wall cover around the exhaust gas flue and fix it in place using the fixing screws.



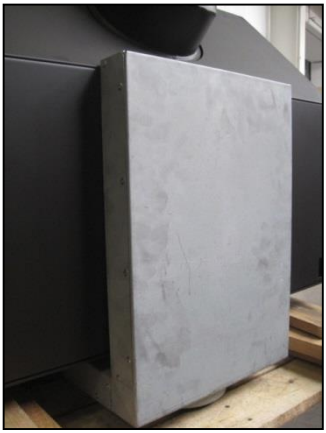
Exhaust gas connection at bottom:

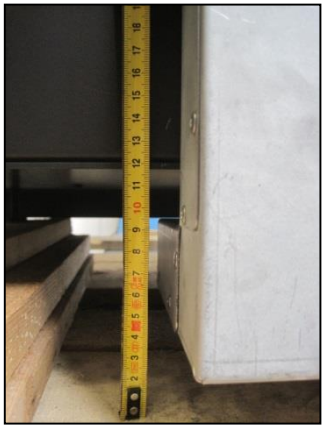
In this process, firstly follow the steps numbered 1-2 described above and then continue as described below:

3. The rounded M5 screws provided are to be screwed into the two threaded holes until they are about 1.0 mm from being flush. The exhaust gas sockets are placed onto these screws using the holes in the sockets and then turned slightly. Should the socket

not hold, the rounded screws can be screwed in further or the holes on the socket can be bent outwards by 1-2 mm.

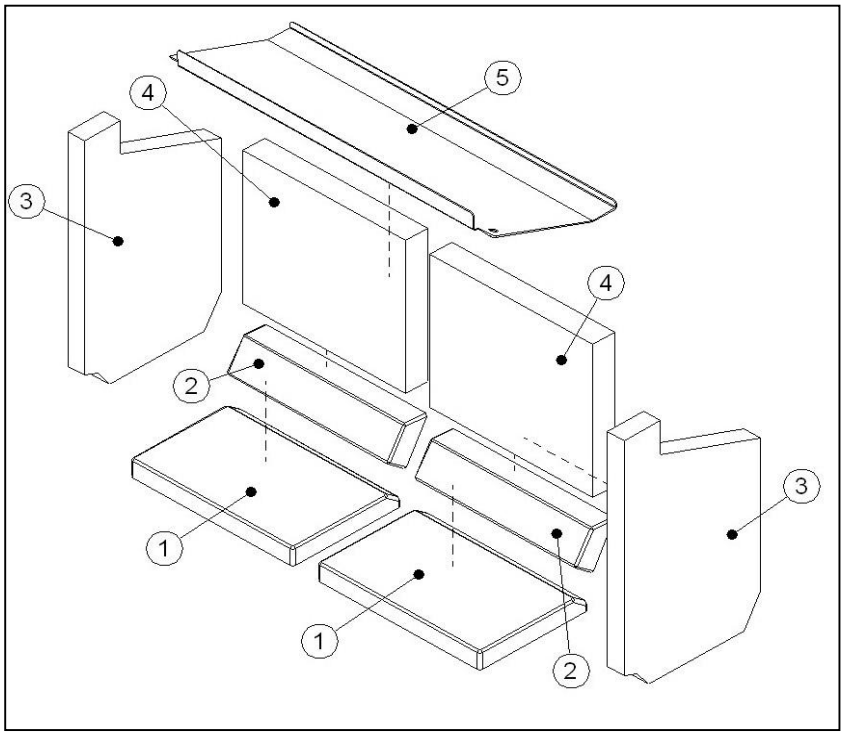
Installing an exhaust gas flue below the cassette requires a distance from the lower edge of the cassette to the installation floor of around 120 mm and at the rear of approx. 50 mm.





2.23 Firebox lining

In the commissioning phase, it is possible that the lining is covered in a dark layer. Once the operating temperature has been achieved, this layer on the firebox lining will, however, have been burnt away. Cracks are not a reason for making a complaint because the lining is subject to very high levels of stress. An expansion or contraction crack is not serious and does not represent any functional defect. However, firebox lining parts that have moved position should be replaced.
If spare parts are required, these can be ordered from your fireplace fitter.

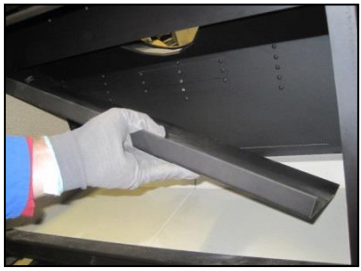


Item	Amount XS500	Amount 600-900 (S,M,L,XL)	Linear XS 500 (mm)	Linear S 600 (mm)	Linear M 700 (mm)	Linear L 800 (mm)	Linear XL 900 (mm)
1	1	2	1032854	1017402	1017404	1017406	1017408
2	-	2	-	1017403	1017405	1017407	1017409
3	2	2	1032859	1017459	1017461	1017463	1017465
4	1	2	1032855	1017460	1017462	1017464	1017466
5	1	1	-				
6	-	1	Cut of ceramic paper				

Installation of the firebox lining:

1. Place the base insulation into the firebox.

2. Insert the fireclay blocks (Item 1) and the apron blocks (Item 2).



3. Then insert the side wall blocks (Item 3) and afterwards the deflector plate (Item 5). Already have the second side block ready within easy reach so that you can pick it up and insert it using one hand.

4. Finally, insert both of the rear wall blocks (Item 4).

Dismantling the firebox lining is carried out in the reverse order!

3. Operating instructions

Read these installation and operating instructions through carefully before installing or commissioning your fireplace cassette. **All objects must be removed from the firebox** (except the firebox lining).

Ask your specialist dealer to provide you with instruction in the operation and functionality of your fireplace cassette. National and European standards, as well as local regulations, are to be observed in the operation of fireplaces!

3.1 General instructions about operation

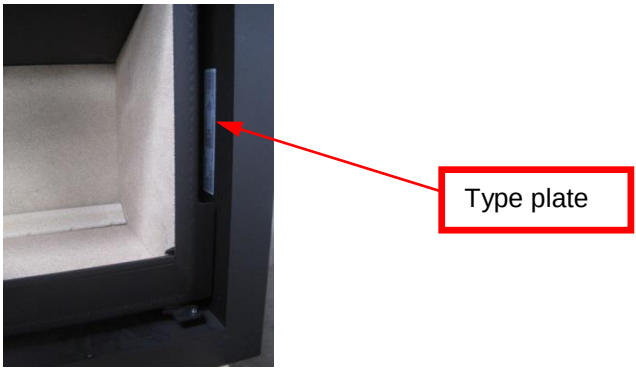
- **Small children, old or frail people:** As with all heating appliances, it is a good idea to install safety devices for these groups of people because the glass panel and also the outer casing of the fireplace cassette can become very hot!
  ➔ **Risk of burning!** ← Never allow these groups of people to touch or use a fireplace cassette without supervision when a fire is lit or has just been extinguished. Please make these groups of people aware of the safety hazards.
- Thermal energy is set free as a result of the burning process that will lead to intense heating of the fireplace components such as the surfaces, door, door and operating handles, glass, flue pipes etc. Please refrain from touching or operating the fireplace cassette **without** corresponding protection (e.g. **heat-resistant gloves**).
- **Operation with door left open:** Operation with the door open can cause excess smoke. The appliance must not be operated with the appliance door left open except as directed in the instructions.
- The fireplace cassette may only be operated when the firebox door is **closed**. The door must also be kept closed at all times even in a cold condition. The door is only opened to light the fire and to add wood!
- The fireplace may not be modified! In particular, no components may be placed in the firebox or the exhaust gas flue or combustion air system if these parts have not been expressly approved by the company Spartherm. Without this express approval, any such changes to the fireplace will lead to the removal of guarantee cover and also the approval to use the fireplace.
- Extractor fan hoods, ventilation systems etc. that are installed together with fireplaces in the same room or group of rooms can have a negative influence on the functionality of the fireplace cassette (through to smoke leakage into the living area) and may under no circumstances be operat-

ed at the same time as the fireplace cassette without suitable measures having being taken.

- It must be ensured that there is sufficient combustion air when multiple fireplaces are operated in one room or connected rooms!
- This fireplace cassette is designed for temporary burning of wood. Permanent operation can also not be achieved due to the extraction of combustion air and is not permitted!

3.2 Type plate

The type plate is located on the right hand side of your fireplace cassette on the convection air jacket. It contains technical data and information. The type plate may not be removed because this confirms that the appliance has been tested. It is required for the approval and the yearly inspection carried out by the heating inspector/chimney sweep.



3.3 Burning wood

3.3.1 First use/commissioning

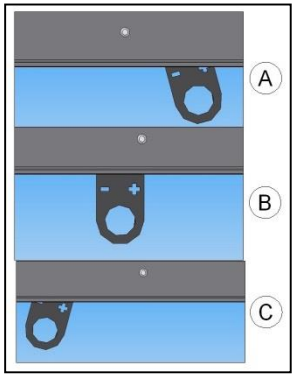
The fireplace cassette may only be assembled and installed by a specialist company. The first use of the fireplace cassette must be carried out by an expert from the fitting company. The owner / operator of the system is to be provided with a certificate in which the proper installation and the correct settings / functionality of all control and safety components are confirmed.
Only a moderate fire may be ignited during the first use of the fireplace cassette. This will avoid any cracks occurring in the firebox lining (these areas can still contain residual moisture before the first use of the fireplace cassette). Gradually increase the heat output over about 3 to 5 changes until it has reached around 30% above the nominal heat output (see 2.3 “Tech-

nical Data" for wood feed quantity per hour) so that the corrosion coating on the surfaces is properly burnt in. During this process, the colour can soften slightly, please do not place any objects against the appliance or touch the appliance. It may sometimes occur that an unpleasant yet harmless smell will come from the fireplace during this burning process (sometimes also with slight smoke formation). Therefore, it is important to ensure a **good level of room ventilation** during this burning process. Open all doors and windows to the outside.
Please note: minor expansion or stress noises can occur during heating or cooling of the fireplace cassette. These noises are completely normal and result from the materials expanding due to the high temperatures.

Note for use in smoke control areas:
The maximum amount to fuel specified in this manual should not be exceeded, overloading can cause excess smoke.

3.3.2 Combustion air regulation

Combustion air regulation is carried out infinitely variably by adjusting the control lever that is located underneath the door (see Fig. 8). Adjusting the setting is carried out with the firebox door closed!
Air supply open (when lighting the fire or adding new wood). The control lever is pushed completely to the right. The firebox will now receive the maximum volume of combustion air as primary and secondary air.
Dampers left open: Operation with the air controls or appliance dampers open can cause excess smoke. The appliance must not be operated with air controls, appliance dampers or door left open except as directed in the instructions.
Controlled burning: The control lever is set somewhere in the middle. Primary air is now closed. This ensures that the fire does not receive too much air and the wood does not burn too quickly. The secondary air flows over the panel ventilation system to the ceramic glass panel and prevents, as far as possible, any sooting of the glass panel.



Air supply closed: The control lever is set completely to the left. The firebox receives no combustion air in this setting. The air supply may only be completely closed off after the fuel has been completely burnt. The air supply must always be closed when the fireplace cassette is not in operation.

A	Air supply open
B	Controlled burning
C	Air supply closed

3.4 Lighting a fire / burning wood

Lighting the fire in your fireplace cassette is very easy if you follow the instructions given below:

1. A fire may only be started in the fireplace cassette when the firebox lining has been correctly installed.
2. Turn off any air extraction ventilation (kitchen, bathroom, WC etc.). This will avoid low pressure building up in the installation room that can affect the extraction of flue gasses from the fireplace. Check the combustion air supply (if required, open the cover flap)!
3. Adjust the combustion air regulator to the "**Air supply open**" position and open the firebox door (swing open) (see Fig. 8).

4. Place chopped wood into the middle of the firebox using the funeral pyre method (use softwood).
5. Place standard firelighter cubes under the wood pyre to help start the fire. (paper is not recommended because it burns too quickly and causes ash to circulate).
6. Never use methylated spirits, petrol, oil or other easily combustible liquids.
7. Light the fire using the firelighter cubes and, if required, leave the firebox door open by approx. 3-5 cm. **The fire should now light, burning brightly and intensively.**

8. When the kindling wood is burning well, add smaller hardwood logs or larger softwood logs using the funeral pyre method and close the door.
9. When the wooden logs are burning well, the air control lever can be set to a position in the middle.
10. You can find out more about the correct volume of wood to add to the fire in the section "Volume of wood to add per hour" (see point 3.4.2 or 2.2).

11. When the wood has been completely burnt and only embers are remaining from the initial wood added to the fire, new wood can now be added as required (hardwood is ideal).
12. Depending on the weather conditions, adjust the control lever towards the middle setting or a little over (Fig. 4). The correct

setting is always based on experience and the current local conditions.

13. Always open the firebox door slowly. This will ensure that you avoid sudden low pressure in the firebox and prevent exhaust gases leaking into the living room.
14. This will prevent any possible smoke leakage through the opened door when adding new wood during the ember phase.
15. Never consistently add more wood than the recommended amount.
16. If your chimney is “drawing air” too strongly, the fire will blaze powerfully even if only being fed by secondary air. Find the optimal position for controlled burning by moving the combustion air regulator lever. The more the control lever is adjusted in the direction “Air supply closed“, the less air will be fed to the firebox. Take care not to reduce the air supply to such an extent that the fire is smothered (see 3.5).

3.4.1 Adding wood / end of the fire

Fuel may only be added to the fire when the initial fuel has burnt down to embers.

1. Completely open the air supply (see Fig. 8)

2. Open the firebox door very slowly **(use heat-resistant gloves!)** to ensure no turbulence occurs that could promote smoke to leak out.

3. Place the chopped wood on to the embers (bark facing upwards, cut section on side). (Ensure that the air supply is open!)

4. Close the firebox door **(use heat-resistant gloves!).**

5. If the chopped wood does not immediately start to burn, the combustion air regulator should remain open for approx. two to five minutes in the “Air supply open” position (completely to the right). The setting of the combustion air regulator should only be changed when the wood that has been added has been completely burnt.

Note for use in smoke control areas:

Refuelling onto a low fire bed
If there is insufficient burning material in the fire bed to light a new fuel charge, excessive smoke emission can occur. Refuelling must be carried out onto a sufficient quantity of glowing embers and ash that the new fuel charge will ignite in a reasonable period. If there are too few embers in the fire bed, add suitable kindling to prevent excessive smoke.

6. End of the fire:
This is achieved when the wood has been completely burnt, there is no smouldering fire and no incomplete combustion can occur. The control lever can now be closed.
When your fireplace cassette is not being operated, always set the control lever to the **position "Air supply closed" (see Fig. 8).**

3.4.2 Volume of wood to add per hour

In order to avoid damage caused by overheating e.g. discolouration of the steel, deformation etc. and to guarantee optimal functionality for many years, the fireplace cassette must be correctly fuelled. Any danger of overheating can be excluded when the maximum heating output is not exceeded.
You can read about the volume of wood to add per hour in section 2.3 "Technical Data". The circumference of the individual wooden logs should be approx. 20-25 cm!
Please note: Larger volumes of wood lead to overheating and damage to your fireplace cassette. Wood briquettes have a **significantly higher** heating output than hardwood. The volume of wood briquettes added per hour should therefore be kept to at least 20% less than when using chopped wood (see 2.3).
We reject all guarantee claims resulting from damage caused by overheating (too much wood added per hour).
The maximum amount of fuel specified in this manual should not be exceeded, overloading can cause excess smoke.

3.5 Heating output regulation

Regulation of the heating output is achieved through the **volume of fuel added to the fire**. **Do not** try to slow down the burning process by reducing the air supply too severely. When burning wood, this will lead to incomplete burning and, therefore, to wasted fuel and unnecessary environmental pollution because the wood is degassed even when no flames occur. This also leads to increased sooting of the glass panel! In addition, there is a danger of deflagration (explosion-like inflammation of the smoke gasses). Ensure that the firebox door is always firmly shut so that the burning process is not accelerated through the uncontrolled feeding of air.
The heating output of your fireplace cassette is also dependent on the "drawing" performance of your chimney. The "drawing" performance of the chimney can be influenced by the size of the opening to the chimney or by environmental conditions such as strong winds etc.

3.6 Room heating capacity

Room heating capacity was previously given in accordance with the DIN 18893 standard (last issued August 1987) and is no longer useful for modern houses built after 1990. However, the old information for room heating capacity can still be of interest as a comparative value or for use with older building structures that do not yet correspond to the thermal insulation standards from 1977.
The nominal heating capacity of the individual fireplace cassettes when operated as a temporary heating source (meaning with operative intervals of less than 8 hours) provides the following room heating capacities:

Fireplace cassette	**500**	**600**	**700**	**800**	**900**
	E4	**E5**	**E7**	**E10**	**E14**
NHC in KW	4,6	4,9	6,9	9,9	14,0
Heating condition	Room heating capacity* during temporary heating (values in m³)				
favourable	88	88	165	>186	>186
less favourable	53	53	95	132	>173
unfavourable	34	34	65	90	>114

* Significantly larger rooms can be heated with modern thermal insulation

A more precise description for “favourable”, “less favourable” and “unfavourable” can be found in the DIN 18893 standard. In simple terms, “favourable” represents a situation in which the room only has one exterior wall and is otherwise surrounded by heated interior rooms, “unfavourable” means, in contrast, rooms with two exterior walls and adjacent unheated rooms.
The values given above refer to building structures that do not yet correspond to the requirements of the thermal insulation standards from 1977 and also represent, therefore, a simplified process that is only valid up to a maximum room size of 200 m³. The DIN 18893 standard already recommends using DIN 4701 for these calculations from a room size of 200 m³. It is now preferable to make an estimate according to TROL or, in particular, to make a calculation according to DIN 12831.

3.7 Heating in the transitional period / unfavourable weather conditions

In the transitional period, meaning when the outside temperature is still high (above approx. 15°C) or during unfavourable weather conditions (katabatic winds etc.), it is possible to experience disruption to the chimney flue performance during sudden rises in temperature so that the hot gasses are

not completely extracted. In these circumstances, the fireplace should only be filled with a low volume of fuel and the air damper operated at its highest setting. This will result in the existing fuel burning quicker (with a greater development of flames). As a result, the performance of the chimney flue should stabilise. In order to avoid resistance in the bed of embers, the ash should be carefully taken off at regular intervals. After the chimney has stabilised, the air intake feed can be reduced a little (to around the medium setting).

3.8 Fuel

The foundation “Wald in Not” (Forest in Danger) put it aptly in one of their information brochures: “Wood does not cause any burden for nature. Wood is stored energy from the sun. Sunlight, water and carbon dioxide are the building blocks from which wood is created. Sunlight is chemically bonded during the whole life of the tree. The sun’s energy is stored in lignin and cellulose. This energy is set free again when the wood is burnt!
You can find out more information on the internet site www.wald-in-not.de.
Fireplaces may only be operated using fuels that correspond to the 1st BImSchV regulations. **Only** firewood (recommended residual moisture 20% or less) or wood briquettes according to DIN 51731 are permissible for use in fireplace cassettes.

Note for use in smoke control areas:

Spartherm appliances that have been recommended as suitable for use in smoke control areas are identified by a suffix P3 in the model name. These models are recommended for use in smoke control areas when burning solely dry wood logs. Wood briquettes must not be burnt with these appliances in smoke control areas.

No other type of fuel may be used!

Therefore, it is **not permissible** to burn the following:

- Varnished or plastic-coated wood
- Chipboard or wood that has been treated with wood preservative
- Wood originating from Europool palettes
- Waste, household rubbish or old clothing
- Paper, paper briquettes, cartons
- Damp wood (residual moisture over 25%)
- Plastics / foams of all types
- Solid or liquid materials foreign to wood

It is **prohibited** to burn these and other unsuitable materials in your fireplace cassette. If materials other than the approved fuels of firewood or wood briquettes according to DIN 51731 are burnt, this can lead to the formation of dangerous gasses and disruption to the burning process right through to deflagration.
The guarantee is rendered void if the fireplace cassette is operated using non-approved fuels.
Use small pieces of wood to get the fire going. Only use chopped wood that is no thicker than approx. 8 cm at its thickest point. The **optimal** length of the wood is **approx. 25 cm**. Do not add too much wood to the fire for continuous heating, it is preferable to add small volumes of wood.

3.9 CO_2 neutrality

Wood only releases as much carbon dioxide as it collected and trapped from the air as a tree. It is irrelevant in this case whether the wood is burned or rots in the forest – the carbon dioxide released always remains the same. New trees absorb the carbon dioxide that is released from the wood during burning – a closed natural carbon dioxide cycle is produced.
Conclusion: Nature remains in a state of equilibrium as a result of burning wood. Germany has regulated the sustainable management of forests by law. This obligation has led to a growth in the volume of wood because the increase in wood grown in forests is on average 40% greater than the volume of firewood and timber used.

3.9.1 Storing wood

In general, it is recommended to store firewood for approx. 2-3 years, the wood should be protected from dampness and well ventilated (e.g. under a roof overhang on a side of the building protected from the weather). Wood with moisture content < 25% will be achieved significantly quicker with optimal storage. Therefore, you should store your firewood already chopped because the bark can prevent the moisture escaping from the wood. You should leave a distance the width of a hand between the logs for good ventilation so that the air can circulate properly and the moisture escaping from the wood can be taken away by the air. A distance to the floor of approx. 20-30 cm should be maintained underneath the stack of wood. Renewed absorption of moisture due to precipitation (e.g. rain or snow) should be avoided. Storing wood in garages, under plastic sheets or in poorly ventilated cellars is not recommended because the moisture present in the wood cannot escape properly.

3.10 Your contribution to environmental protection

Whether your fireplace cassette burns in an environmentally friendly way is dependent to a large degree on how it is operated and which fuel is used. The following advice should help you to operate your fireplace cassette in an environmentally friendly way:

- Do not use wood that has been stored for a long time because this wood can lose its flammability and its calorific value reduces after extremely long storage or insufficient ventilation.
- Adjust the volume of wood used to the relevant heating requirements.

You can check whether a clean and low-emission burning process is taking place in your fireplace cassette as follows:

- The ash should be white. A darker colour indicates residual charcoal and an incomplete burning process.
- The exhaust gas coming out of the chimney should be as clear as possible (the less visible the exhaust gas appears, the better the burning process).
- The firebox lining in your fireplace is light and not sooted after burning.

Please note: *The fireplace may not be used as a waste incinerator! Furthermore, the fireplace is only intended for temporary burning. Continuous operation can also not be achieved due to the extraction of combustion air and is not permitted.*

3.11 Cleaning and care

The fireplace cassette may only be cleaned in a **cold** state. **Please note that cleaning can lead to soiling of the installation room and your clothing. We recommend that you protect the area around the opening to the fireplace from soiling with a plastic sheet or a blanket and that you wear work clothes. All dismantled components must be installed again after cleaning.**

- The fireplace cassette, the firebox, the smoke collection chamber with the heating gas control system, the combustion air system and the exhaust flue pipes to the chimney must be inspected for deposits and, if necessary, cleaned at regular intervals on a yearly basis and also maybe during and after the heating season and after the chimney has been cleaned. The deposits should be removed using a hand brush and/or an ash vacuum cleaner (specialist dealer).The chimney should be cleaned at

regular intervals by a chimney sweep! Furthermore, the fireplace cassette should be inspected each year by a specialist.

- **Exhaust gas control system:** Additional exhaust gas deflectors can be found above the fireplace and in the exhaust gas collection chamber. These components should be cleaned regularly. The exhaust gas deflectors must be removed in order to complete this task. They need to be lifted, then twisted and can be removed through the firebox in this way. The deposits on the deflectors can be cleaned off easily using a hand brush.
- **Ash removal:** Your fireplace cassette is suitable for burning dry wood, which burns best in its own ash. If you want to remove the ash from the fireplace, open the fireplace door and remove it e.g. using a dustpan and brush or with an ash vacuum cleaner. Finally, dispose of the ash in the correct manner.
- **Please note that the embers can still be burning up to 24 hours later or even longer!**
- **Cleaning the ceramic glass panel:** The glass panel can be easily cleaned using standard fireplace glass cleaner, which you can also obtain from your specialist dealer. The glass fibre seals should not be soaked with cleaning fluids! Finally, wipe the glass panel with a dry cloth.
- If you require access to the firebox or the flue pipe, you can open the inspection/maintenance openings (see Fig. 1b). This requires the side blocks of the firebox lining and the deflector plate to be dismantled.

Regularly remove dust from above and below the fireplace cassette during the heating season because dust particles may burn or char. This can lead to soiling of the installation room and the furniture within or to odour problems.

3.12 Chimney fire

When burning wood (especially softwood), sparks can often be transferred from the fireplace to the chimney. These sparks can set light to the layer of soot in the chimney (this only occurs **rarely** if the chimney has been regularly cleaned by a chimney sweep). The chimney will then burn. This can be recognised by flames blazing out of the chimney outlet, heavy flying sparks, smoke and odours or an increasingly hot chimney stack.

It is important in these cases to handle the situation correctly. The fire brigade should be notified via the relevant emergency number. In addition, a chimney sweep should be informed about the situation. Combustible objects should be moved away from the chimney.
Warning from experts: Do not attempt to put out the fire with water while waiting. The temperatures in a chimney fire can reach up to 1300 °C. The

extinguishing water will immediately turn to steam. A 10 litre bucket of water results in 17 m³ of steam. The enormous pressure that results can break the chimney apart.

Once the chimney fire has burnt itself out, the chimney must be examined by a specialist for cracks or leakages and, if required, repaired accordingly.

3.13 Maintenance

The door seal must be checked on a regular basis. If necessary, this seal is to be replaced (due to wear, breakage etc.).
The firebox lining must by checked at regular intervals. It consists of natural products that are subject to expansion and contraction during every heating process. Cracks can occur as a result. It remains fully functional as long as the firebox lining retains its position in the fireplace and doesn't break.
A yearly service of the fireplace cassette carried out by a specialist is indispensible to ensure fault-free functionality (where possible, before the heating season)! The fireplace may not be modified!
Only original replacement parts that have been approved by the manufacturer may be used! Please contact your specialist dealer should you require any parts!

4. Troubleshooting

You can rectify the following problems with your fireplace cassette independently, please contact your specialist dealer, stove builder or fitter for all other problems.

4.1 Glass experiencing heavy, quick and irregular sooting

If this has not been the case from the very beginning, please check the following points:

- Are the correct fuel and technology being used? (see point 3.4.2; 3.8)
- Are you experiencing atmospheric inversion? (see point 3.4)
- Is the combustion air regulator fully opened? (see point 3.3.2)
- Does the sooting occur quickly within half an hour? (gradual soiling during operation of the system is normal. A car windscreen will also become soiled during a journey!)
- Is the firebox insulation a perfect fit?

- Is the wood dry enough? A moisture level of less than 20% should be measurable in the wood.
- Has enough wood been added to the fire? (when the volume of wood is too low it is possible that an insufficiently high temperature has been achieved in the fireplace)

4.2 Fire is difficult to light

If this has not been the case from the very beginning, please check the following points:

- Are the correct fuel and technology being used? (see point 3.4.2; 3.8)
- Is the wood dry enough? (see point 4.1)
- Is the wood too thick? (see point 3.4)
- Has sufficient air intake been guaranteed? (see point 3.3.2)
- Is the combustion air regulator fully opened? (see point 3.3.2)
- Is the external combustion air pipe unblocked?

4.3 Smoke leakage when adding wood to the fire

- See all questions in point 4.1
- Is the chimney unblocked?
- Has your fireplace cassette and the exhaust gas flue system already reached their operating temperature?
- Did you open the door slowly at the beginning?

4.4 Fire burns too quickly / wood consumption is too high

If this has not been the case from the very beginning, please check the following points:

- Has the wood been cut to a sufficient size?
- Is the chimney “drawing” air too strongly?
- Have your reduced the combustion air regulator?
- Are you using solid hardwood with 15-20% residual moisture?
- Is the door completely closed?
- Have you kept to the recommended volume of wood?

5. General guarantee conditions

5.1. General information

This is a high quality product manufactured according to the very latest technology. The materials used were carefully selected and are subject, just like our whole production process, to continuous monitoring. Special expertise is required for assembling and installing this product. Therefore, our products must only be installed and put into service by specialist companies in accordance with the valid statutory regulations.

5.2. Guarantee period

We provide a 5 year guarantee for our fireplace cassettes
The guarantee period is valid from the date it was delivered to the first customer and for the following areas:

- Fault-free operation according to the regulations in the relevant test (DIN EN 1322)
- Expert assembly of all parts within the scope of our delivery
- Flawless condition of materials
- Within the territory of the Federal Republic of Germany (can be extended contractually)

We grant a 6 month guarantee for worn parts in the fire area, such as refractory concrete, grates, seals and glass panels, as well as for operational elements like handles, control levers, electronic components and varnished or galvanised surfaces.

5.3. Proof of purchase

The purchase date is to be verified by the invoice or receipt and the guarantee certificate. We are not obligated to provide guarantee cover without this documentation being submitted as proof.

5.4. Guarantee exclusions

There is **no** guarantee cover during the guarantee period for:

- **Wear-and-tear:** Fireclay / refractory concrete / vermiculite: are subject to expansion and contraction during every heating process. Cracks can occur as a result. As long as the linings retain their position in the fireplace and do not break then they remain fully functional.

- **Surfaces:** Discolouration on the varnish or galvanised surfaces that is due to the thermal load or excessive stress levels.
- **Seals:** Reduced leak tightness due to the thermal load and hardening.
- **Glass panels:** Soiling caused by soot or burnt-on residues from burnt fuel, as well as discolouration or other optical changes due to the thermal load.
- Incorrect transport and/or incorrect storage
- Fragile parts such as glass and ceramics
- Improper handling and/or operation
- Lack of maintenance
- Incorrect installation or connection of the appliance
- Non-observance of the installation and operating instructions
- Technical modifications made to our appliance by persons outside of the company

5.5. Correction of defects - repairs

We rectify all defects free of charge during the guarantee period that have been proved to result from material defects or manufacturing defects and when the defect has been notified in good time to the specialist dealer and they have in turn submitted a written assessment of the damage/repair case. Any further compensation for damages is excluded. In the first year after delivery, we rectify the acknowledged cases without invoicing any incidental costs (hotel, expense allowances, flat-rate per km etc.). In terms of customer service appointments made to deal with the replacement of worn parts, we invoice – after the 6 month period has expired – all incidental costs to the relevant customer. This is also true for customer service appointments whose requirement should not be covered by us but by others. The guarantee period is not extended due to maintenance work or the replacement of different components nor does it begin anew. The replacement parts are subject to the fixed guarantee period laid down by law.

5.6. Liability

Damage that goes above and beyond the appliance we have delivered is not recognised, insofar as this has not been required or adjudicated by law.

5.7. Note

Your specialist dealer is also available to assist you and provide advice outside of our guarantee conditions.

6. Commissioning report

Date:_____	Device no.: (see type plate)
Installation company:	
Electrical installation:	
Connection of protective earthing	
The user of the cassette has been instructed in its operation and the installation and operating instructions have been handed over:	Signatures: Fitter / User

Maintenance work carried out yearly:					
Type of work					
Name:					
Date:					
Signature:					

PLEASE NOTE: Store carefully!
Please store these instructions together with a valid and clearly dated receipt of purchase and keep the documents ready for our fitters in case of any service work.